

Chapter 4

Utility Locations and City Utility Easements

Engineering Design Standards



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4.1 Purpose of Standard Locations

4.1.1 Conflicts. It is necessary to provide adequate space for utilities in a manner that will minimize conflicts between using the public right-of-way for transportation purposes and utility purposes. Oftentimes standard locations are inapplicable and unobtainable in street areas where existing utilities are seriously crowded and where it would not be feasible to expect major or dramatic reorientation of the underground. The location criteria must be practical and applicable in new developments and in relocation work.

4.1.2 Relocations. Utilities are not expected to revise existing facilities as to location or depth solely or primarily for the purpose of creating uniformity. However, when new or relocation work is undertaken, uniformity should be sought.

4.2 Plans Required

4.2.1 Construction Approval. Any utility or other facility constructed in City right-of-way shall have construction plans submitted and approved in accordance with requirements in these Design Standards. No Right of Way Excavation Permit shall be issued for construction of new utilities or extension of existing facilities (except service taps or laterals to individual properties) without prior construction plan approval by the City.

4.2.2 Conformance. The applicant's completed facility shall be in conformance with the drawings or sketches referred to above, unless a special variance has been requested and approved by the City.

4.3 Location of Utilities

4.3.1 Water mains shall typically be located in the North and West sides of the street, seven (7) feet from the face of the curb. No alignment shall place a pipe within four (4) feet of the face of the curb.

Minimum depth of cover shall be six (6) feet and shall also meet the requirements of *Chapter 10 Water Mains and Supplemental Standard Specifications 300 Water Main Construction*, including requirements for minimum diameters and vertical separation.

4.3.2 Sanitary sewer main shall be located within the street right-of-way and shall, wherever possible, follow the centerline of the street. Sanitary sewer manholes placed in cul-de-sacs shall have the center of the sanitary manhole at least six (6) feet from the face of the curb.

Minimum depth of cover shall be seven (7) feet and shall also meet the requirements of *Chapter 9 Sanitary Sewers and Supplemental Standard Specifications 100 Sanitary Sewer Construction* including minimum diameters and vertical and horizontal separation.

4.3.3 Storm sewer shall normally be located on the South and East sides of the street 7 feet from the face of the curb. No alignment shall place a pipe within 4 feet of the face of the curb. Any storm sewer 48 inches or larger in diameter shall be reviewed and approval given on a case-by-case basis.

Minimum depth of cover shall be eighteen (18) inches and shall also meet the requirements of *Chapter 11 Drainage Improvements and Supplemental Standard Specifications 200 Storm Sewer Construction*.

4.3.4 Underground power shall be located two (2) feet from Face of Curb in the boulevard. Alternate location will be the lot line if approved by the City Engineer. Minimum depth of cover shall be thirty (30) inches for low voltage and forty (40) inches for high voltage. Vertical separation shall be twelve (12) inches for private lines. Street lights shall be eighteen (18) inches from the face of curb with preference adjacent to a transformer on the same side of the street. Street lights shall also meet the requirements of *Chapter 15 Street Lighting*.

4.3.5 Other utilities shall be located in a shared trench with underground power lines with a minimum cover of one (1) foot over the power line. These utilities include Natural Gas, Fiber, and Communications (such as Cable and Telephone). If the non-City Utility chooses to install a utility in a separate trench, a permit from the City is required.

Minimum cover shall be eighteen (18) inches.

4.3.6 Utility facilities such as hydrants, street lights, signal lights, transformers, storm sewer inlets, etc. shall be located at lot boundaries wherever possible to avoid conflicts with driveways.

Fire Hydrants and Light Poles shall have a minimum clearance of five (5) feet from other above ground utility facilities.

4.4 Location Requirements

All utilities located within the public right-of-way shall be in conformance with the City Engineering Design Standards and Supplemental Standard Specifications.

Utilities already existing in non-standard locations may be replaced in the same location when permitted by the City Engineer.

Gravity lines shall take preference as to horizontal and vertical alignment over non-gravity systems and pressure systems.

Consideration will be given to the use of utility easements adjacent to the public right-of-way and to the use of alleys and medians.

In the event of a conflict, or if a particular utility requires more than one system be installed in the right-of-way, the alternate location may be used when permitted by the City Engineer.

Utilities shown are primarily for local distribution and collection. Large diameter lines may make it necessary to modify utility locations.

Street trees placed between the curb and street side of sidewalk must not interfere with underground or overhead utilities.

Normally street lights will be placed on the same side of the street as the electric utility, preference adjacent to a transformer. Placement is typically 18" from the face of the curb.

Street lights shall not be located closer than five (5) feet horizontally to fire hydrants.

Electric lines will be typically two (2) feet from face of curb in the boulevard. Alternate location is on the lot line when sidewalks or other obstructions exist, to be determined by the Electric Superintendent.

Final GPS locations and depth of bury of non-City owned utilities installed within the public right-of-way shall be provided to the City Engineer.

All utilities and infrastructure improvements shall be extended to the limits of all lot boundaries.

Whenever possible, service lines shall be placed perpendicular to the main. Exceptions may exist where spacing limits connectivity. Exceptions are to be approved by the City Engineer prior to construction, and are to be shown on plans.

4.5 Interruption of Traffic

All Right of Way Excavation Permits where work will be done in the street pavement or in the right-of-way and would require a lane closure, must be approved by the City Engineer.

All Street Closure Request Forms shall be submitted a minimum of forty eight (48) hours prior to construction and must be accompanied by a traffic control plan which includes the use of barricades for public street closure.

All closures must comply with the current Federal Highway *Manual on Uniform Traffic Control Devices* (MUTCD).

4.6 City Utility Easement Requirements

Permanent easements for sanitary sewer, storm sewer, drainage, water main, and power shall be obtained when the utilities are to be constructed outside of the typical street right-of-way (ROW) on private property.

Storm sewer, drainage, and water main easements shall have a minimum width of twenty (20) feet.

The width of sanitary sewer easements shall be at least three (3) times the depth of the sewer and shall be centered on the sewer line. Sewer easements require a minimum fourteen (14) foot wide all-weather access surface with a minimum of twelve (12) inches of base. A typical section of the driving surface shall be provided to the City Engineer for the sewer access road with construction plans.

Additional width may be required by the City Engineer to ensure proper access for City maintenance equipment, such as access to manholes for vacuum trucks.

When City utilities are to be located adjacent to one another, the minimum separation distance between the utilities shall be ten (10) feet and both shall require easements.

Electric utilities shall have a minimum easement width of ten (10) feet.

4.7 Easement Identification

Easements shall be shown on all plans and permits and shall be labeled specifically for the utility in which it is describing.

For example:

- *Sanitary Sewer Easement*
- *Storm Sewer Easement*
- *Drainage Easement*
- *Water Main Easement*
- *Power Easement*

Temporary easements, such as those required during construction, shall be clearly identified on plans and permits.